

CLAIMS

What is claimed is:

1. An optoelectronic dust sensor comprising:
 - one or more light-emitting units irradiating one or more dust passage routes with light;
 - one or more light-receiving units receiving light reflected from dust passing through at least one of the dust passage route or routes;
 - one or more main body housings at least partially enclosing the optoelectronic dust sensor;
 - one or more passage holes, provided at at least one of the main body housing or housings, for permitting introduction of dust from the exterior to at least one of the dust passage route or routes; and
 - one or more openings, provided at at least one of the main body housing or housings, for permitting discharge of dust from at least one of the dust passage route or routes to the exterior;
 - wherein presence, absence, and/or concentration of dust is detected based on received-light output from at least one of the light-receiving unit or units; and
 - at least one of the opening or openings is larger than at least one of the passage hole or holes.
2. An optoelectronic dust sensor according to claim 1 wherein:
 - at least one of the opening or openings is provided with at least one removably installed cover.
3. An optoelectronic dust sensor according to claim 2 wherein:
 - at least one of the cover or covers is disposed so as to be removed by at least one distance from at least one optical path from at least one of the light-emitting unit or units, through dust in at least one of the dust passage route or routes, to at least one of the light-receiving unit or units.
4. An optoelectronic dust sensor according to claim 1 further comprising:
 - one or more detection report means for detecting and reporting one or more large

3 amounts of dust accumulated at the interior of at least one of the main body housing or
4 housings of the optoelectronic dust sensor.

- 1 5. Air conditioning equipment wherein, when one or more optoelectronic dust sensors
2 according to any of claims 1 through 4 is or are disposed near one or more air inlets of
3 the air conditioning equipment, at least one of the opening or openings of at least one of
4 the optoelectronic sensor or sensors is directed toward the inside of the air conditioning
5 equipment, and at least one of the passage hole or holes of at least one of the
6 optoelectronic sensor or sensors is directed toward the outside of the air conditioning
7 equipment.